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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,841	11/13/2003	Rajesh Sundaram	ITL.1062US (P17921)	2553
21906	7590	04/25/2005	EXAMINER	
TROP PRUNER & HU, PC 8554 KATY FREEWAY SUITE 100 HOUSTON, TX 77024			LE, THONG QUOC	
			ART UNIT	PAPER NUMBER
			2827	

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

JK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/713,841	SUNDARAM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thong Q. Le	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 15-19, 21-24, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 12-14, 19 and 25-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>031504</u>  | 6) <input type="checkbox"/> Other: ____.                                    |

**DETAILED ACTION**

1. Claims 1-30 are presented for examination.

***Information Disclosure Statement***

2. This office acknowledges receipt of the following items from the Applicant:  
Information Disclosure Statement (IDS) filed on 03/15/2004.
3. Information disclosed and list on PTO 1449 was considered.

***Specification***

4. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 112***

5. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: a substrate of a transistor of the decoder.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-11,15-19, 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Wong (U.S. Patent No. 6,058,060).

Regarding claims 1-9, Wong discloses a method and an apparatus comprising: supplying a negative voltage to at least one deselected wordline of a memory array (Column 6, lines 27-30), and further comprising supplying a positive voltage to a selected wordline of the memory array to program the selected wordline while supplying the negative voltage (Column 6, lines 46-58), and further comprising supplying the negative voltage to all wordlines of the memory array except the selected wordline (Column 6, lines 26-60), and further comprising providing a second positive voltage signal to a selected bitline of the memory array (Column 6, lines 46-52), and further comprising reducing a leakage current through at least one deselected cell coupled to the selected bitline of the memory array (Column 2, lines 20-30), and further comprising providing the negative voltage and a control negative voltage to a decoder coupled to the at least one deselected wordline (Column 6, lines 27-28), and further comprising supplying the negative voltage at less than or equal to negative one volt (Column 6, lines 28), and further comprising supplying the negative voltage the deselected wordline during a first time period, and supplying a positive voltage to the same wordline during a second time period program memory cells coupled thereto (Column 7, lines 7-49, column 6, lines 46-60).

Regarding claims 10, Wong discloses an apparatus comprising:

a decoder (Figure 1, 120) to supply a negative voltage to a deselected address line of a memory array (Column 6, lines 27-29).

Regarding claim 11, Wong discloses the decoder is further coupled to supply a positive voltage to the same address line if it is selected to be programmed (Column 7, lines 29-36)

Regarding claims 15-16 Wong discloses wherein the decoder is further coupled to supply a positive voltage to the same address line is selected to be programmed (Column 6, lines 46-58), and further comprising a plurality of memory cells coupled to the decoder via the deselected address line (Column 6, lines 26-29), and . The apparatus of claim 15, wherein the plurality of memory cells comprise multi-level cells of a flash memory (Column 1, lines 14-15).

Regarding claim 17-19,21, Wong discloses an article comprising a machine-readable storage instructions that if executed enable a medium containing system to:

supply a negative voltage to at wordline of a memory array to at least one deselected (Column 6, lines 27-29), and further comprising instructions that if executed enable the system to supply a positive voltage to a selected wordline of the memory array to program the selected wordline while the negative voltage is supplied to the at least one deselected wordline (column 6, lines 26-60), and further comprising instructions that if executed enable the system to supply the negative voltage to all wordlines of the memory array except the selected wordline (column 6, lines 26-39), and further comprising instructions that if executed enable the system to supply the negative voltage at less than or equal to negative one volt (Column 7, lines 7-8).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 22 –24,28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong.

Regarding claims 22-24, 28-29, Wong discloses a system (Figure 1) comprising: a memory array (110) having a plurality of memory cells each coupled to wordline (WL) and a bitline (BL) ; a decoder (120) coupled to the memory array to supply a negative voltage to a deselected wordline of the memory array (Column 6, lines 26-30), and wherein the decoder is further coupled to supply a positive voltage to the deselected wordline if it becomes a selected wordline (column 6, lines 26-39), and further comprising a second decoder to supply a positive voltage to a selected wordline while the negative voltage is supplied to the deselected wordline (Column 6, lines 26-60), and wherein the memory array comprises a flash memory (Column 5, lines 43-44), and wherein the flash memory comprises a multi-level cell flash memory (Column 5, lines 43-44).

Wong as described above, except for a wireless comprises antenna. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a wire interface being a wireless interface, since it has been held that

constructing a formerly integral structure in various elements involves only routine skill in the art.

***Allowable Subject Matter***

10. Claims 12-14, 19, 25-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12-14, 19, 25-27 include allowable subject matter since the prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Wong (U.S. Patent No. 6,058,060), and others, does not teach the claimed invention having a decoder comprises a first transistor having a well coupled to receive a negative control voltage, a source terminal coupled to receive the negative voltage, and a drain terminal coupled to pass the negative voltage to the deselected address line.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Le whose telephone number is 571-272-1783. The examiner can normally be reached on 8:00am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoai V. Ho can be reached on 571-272-1777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2827

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q. Le  
Primary Examiner  
Art Unit 2827

**THONG LE**  
**PRIMARY EXAMINER**